

Modular Training Standards

## **Operate Mechanized Cable Bolter**

Program #770010

General Services Specialties Group  
Module U0026



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Ministry of Training,  
Colleges and Universities

Modular Training Standards

## **Operate Mechanized Cable Bolter**

Program #770010

General Services Specialties Group  
Module U0026

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This document is the property of the trainee/  
employee named inside and represents the  
official record of his/her training.



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**OPERATE MECHANIZED CABLE BOLTER**

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**CONTENTS****PAGE**

Competency Analysis Profile	
Preface .....	1-2
Notice/Declaration for Collection of Personal Information .....	2
Important Directions to Trainers/Trainee .....	3
Underground Hard Rock Mining Specialty Modules Listing by Groups .....	4-5
Trainee Completion Form .....	6
Training Unit Completion Form .....	6

**TRAINING UNIT****TRAINING TITLE  
UNIT**

U0026	Operate Mechanized Cable Bolter .....	7-13
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**AREAS OF  
COMPETENCY**

4

**COMPETENCY ANALYSIS PROFILE  
OPERATE MECHANIZED CABLE BOLTER  
ON-THE-JOB TRAINING STANDARDS  
\_SKILLS\_**

<b>OPERATE MECHANIZED CABLE BOLTER</b>  <b>U0026.0</b>	Identify and respond to workplace hazards.  0026.01	Inspect and scale workplace.  0026.02	Extend services.  0026.03	Perform pre- operational checks on cable bolter carrier.  0026.04	Start up cable bolter carrier.  0026.05
	Conduct operational checks on cable bolter carrier.  0026.06	Operate cable bolter carrier.  0026.07	Position cable bolter carrier.  0026.08	Prepare back/walls for drilling.  0026.09	Perform pre- operational checks on drill.  0026.10
	Drill back/walls.  0026.11	Tear down and store drill equipment.  0026.12	Perform pre- operational checks on cable bolting and grouting materials and equipment.  0026.13	Install cable bolts and breather tubes  0026.14	Install grout.  0026.15
	Conduct operational checks on grouting equipment.  0026.16	Shut down and store grouting equipment.  0026.17	Install cable plates, strapping or tensioning cables.  0026.18	Shut down cable bolter carrier.  0026.19	

## OPERATE MECHANIZED CABLE BOLTER

### PREFACE

This training document was developed by the Program Development and Standards Unit of the Ministry of Training, Colleges and Universities, in consultation with representatives from the Underground Hard Rock Mining industry. These Training Standards are intended to be used by trainee, trainers/instructors and companies as a "blueprint" for training or as a prerequisite for government accreditation/certification. While this training document is intended as guidelines for training, all issues might not apply in all operations.

A Basic Underground Hard Rock Miner (entry level) is a worker who has achieved accreditation in the entire Common Core Program # 770010. The Mining Tripartite Committee recommends that the employer must provide training in the entire common core for the Basic Underground Hard Rock Miner Training Program, to the worker, within the first year of employment. The prerequisite common core and specialty modules related to a specialty module must be taken before training in the specialty module, e.g Jumbo Drill *NOTE: To be trained and accredited in this module, the prerequisite modules from Program #770010 are U0000, U0001, U0002, U0004, U0006 and U0011. The other prerequisite modules, where applicable, are U0005, U0007, U0014, U0015 and U0082.* Employers have a responsibility to train workers for the work to be done.

The first three modules of Program #770010 - U0000, U0001 and U0002 are prerequisites to all other modules for the program. They must be completed before any other modules can be done and before the employee can be permitted to work underground.

Under the Occupational Health & Safety Act - R.R.O. 1990 Regulation 854, 11.3 there is an allowance for the recognition of equivalent training from other jurisdictions to Ontario training. Based on a comparison of the two programs, the Mining Tripartite Committee has deemed Quebec's Formation Modulaire du Travailleur Minier (FMTM) program to be equivalent to Ontario's Program #770010 Common Core except for specific mine orientation (U0000, Follow Surface and Underground Induction Procedures) and secondary blasting (U0006, Blast Rock). Employers should contact their local apprenticeship office for details about the requirements associated with these equivalencies.

New trainees or experienced miners must obtain accreditation in the same way. Each must demonstrate the skills specified in each Performance Objective to the described minimal acceptable standard as prescribed in each module. These demonstrations must be administered in an operating mine by a trainer designated by the company who shall follow the Performance Demonstration Guidelines approved by the Mining Tripartite Committee.

The care and maintenance of this book is the joint responsibility of the trainee and the employer. The Training Standards were developed specifically for documenting the trainee's acquisition of skills.

## OPERATE MECHANIZED CABLE BOLTER

### PREFACE - Cont'd

Areas of the Basic Underground Hard Rock Common Core including mechanical staging, drilling, rock bolting, and mucking may infringe on some speciality modules for purposes of safety and technological changes. However, accreditation in these areas of the Common Core is not intended to replace accreditation in the speciality modules.

Throughout the document the term "including" is often used. "Including" means : one or more of the items listed, but not limited to those items included in the list.

**N.B.** Re: Lock out and /or tag, where it is practical or possible to lock, then locking and tagging should be the norm.

### NOTICE/DECLARATION FOR COLLECTION OF PERSONAL INFORMATION

1. This information is collected under the authority of the Order-In-Council Number 701/85.
2. The information is collected for the purpose of administering this modular training program within the Province of Ontario.
3. Questions regarding collection and use of this information may be directed to:

Director of Apprenticeship  
Workplace Training Branch  
Ministry of Training, Colleges and Universities  
900 Bay Street  
17th Floor  
Toronto, Ontario  
M7A 1L2  
(416) 326-5605



## OPERATE MECHANIZED CABLE BOLTER

### IMPORTANT DIRECTIONS TO TRAINERS

Trainers instructing workers in the specialty modules for Program 770010 must meet the Trainer Qualification and Criteria Guidelines for Program #770010. They must be accredited in the Basic Common Core Underground Hard Rock program #770010 and the specialty module they will be instructing. Contact your local apprenticeship office for a copy of the Trainer Qualification and Criteria Guidelines.

The Training Standards identify skills required for this occupation and its related training program.

These Training Standards have been written in concise statements which describe how well a trainee must perform each skill in order to become competent.

In using these Training Standards, trainers will be able to ensure that the trainee is developing skills detailed for the occupation.

Trainers and trainees are required to sign off and date the skills following each successful acquisition.

Employers participating in this training program will be designated as the Signing Authority and are required to attest to successful achievement in the space provided at the end of each unit.

### IMPORTANT DIRECTIONS TO THE TRAINEE

#### Trainee

1. It is the responsibility of the trainee to inform the local Apprenticeship Client Services office regarding the following changes:
  - change of trainee name or address;
  - transfer to a new employer;
2. Training Reports must be signed for modular trainees by a Ministry of Training, Colleges and Universities designated Signing Authority and forwarded to a local Apprenticeship Client Services office.
3. At the completion of training, the Trainee Completion Form must be completed and signed off by the Signing Authority and submitted to local Apprenticeship Client Services office.

## OPERATE MECHANIZED CABLE BOLTER

### **UNDERGROUND HARD ROCK MINING SPECIALITY MODULES LISTING BY GROUPS**

#### **GROUP 1    PRODUCTION SPECIALTIES**

U0051 Perform Non-Mechanized Room and Pillar Mining  
U0052 Perform Mechanized Room and Pillar Mining  
U0053 Perform Shrinkage Mining  
U0054 Perform Regular Cut and Fill Mining  
U0055a Perform Mechanical Cut and Fill Mining-  
Non Captive Stope  
U0055b Perform Mechanical Cut and Fill Mining-  
Captive Stope  
U0056 Perform Square Set Mining  
U0057 Perform Under Cut and Fill Mining  
U0058 Perform Non-Mechanized Bulk Mining  
U0059 Perform Mechanized Bulk Mining

#### **GROUP 3    HAULAGE SPECIALTIES**

U0015 Maintain Tire and Wheel Assemblies  
U0017 Operate Scram Drift  
U0019 Perform Track Haulage- Operate  
U/G haulage Train Remote Control  
U0020 Perform Trackless-Haulage Operate  
Scoop Tram-Remote Control  
U0023 Operate Front-End Loader  
U0067 Perform Track Haulage- Operate  
U/G Haulage Train

#### **GROUP 2    DEVELOPMENT SPECIALTIES**

U0016 Perform Non Mobile-Trackless Drifting  
U0060 Perform Mobile Drifting  
U0061 Perform Non-Mobile Track Drifting  
U0062 Perform Conventional Untimbered Raising  
U0063 Perform Conventional Timbered Raising  
U0064 Perform Mechanized Raising  
U0065 Perform Drop/Inverse Raising Mechanized/NonMechanized  
U0066a Perform Shaft Sinking- Timber Lining Installation  
U0066b Perform Shaft Sinking- Concrete Lining Placement  
U0066c Perform Shaft Mucking  
U0066d Perform Shaft Drilling and Blasting

#### **GROUP 4    DRILLING AND BLASTING SPECIALTIES**

U0069 Operate Non-Mechanized Long Hole Drill  
U0070 Operate In-The-Hole Drilling  
U0072 Operate Raise Bore Drill  
U0089 Operate Mechanized Jumbo Drill  
U0090 Operate Mechanized Long Hole Drill  
U0092 Perform Mobile Bulk Blasting  
U0093 Perform Non-Mobile Bulk Blasting

## OPERATE MECHANIZED CABLE BOLTER

### GROUP 3    **HAULAGE SPECIALTIES - cont'd**

U0068a Perform Trackless Haulage-Operate Scoop Tram Draw Point  
U0068b Perform Trackless Haulage-Operate Scoop Tram Production/Development  
U0091 Operate Haulage Truck

### GROUP 5    **GENERAL SERVICES**

U0013 Operate Lifting Mechanism(s)  
U0014 Operate Forklift  
U0018 Operate Mechanized Rock Bolter  
U0021 Operate Bulldozer  
U0022 Operate Grader  
U0024 Operate Utility Vehicle  
U0025 Operate Mechanized Muck Conditioner  
U0026 Operate Mechanized Cable Bolter  
U0027 Operate Non-Mechanized Cable Bolter  
U0028 Operate Scissor Lift  
U0029 Operate Rock Breaker  
U0033 Operate Oxyacetylene Cutting Equipment  
U0035 Operate Backhoe  
U0036 Operate Overhead Crane  
U0074 Operate Mine Hoist- Friction or Drum  
U0075 Install and Maintain Track System  
U0076 Perform Fill Placement  
U0077 Operate Underground Crusher  
U0078 Operate Underground (Filter) Decantation System  
U0079 Operate Conveyor  
U0080 Install and Maintain Underground Pipe System  
U0081 Operate Tipple  
U0082 Install and Maintain Underground Ventilation Equipment

### GROUP 6    **SHAFT SERVICES**

U0083 Operate Cage  
U0084 Perform Shaft Maintenance  
U0088 Operate Skip

### GROUP 7    **CONSTRUCTION SERVICES**

U0085a Construct Concrete Installations  
U0085b Construct Timber Installations  
U0085c Construct Steel Installations  
U0086 Perform Shotcreting

OPERATE MECHANIZED CABLE BOLTER

TRAINEE COMPLETION FORM

Trainee Name

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Print

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Signature

Social Insurance Number

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The Training Unit, when completed, should be Signed off by Trainer/ Signing Authority below. Submit required documentation to your local Apprenticeship Client Services office. Any supporting documentation should also be attached.

Employer Name:

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Address:

\_\_\_\_\_

Telephone:

\_\_\_\_\_

Signing Authority:

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Signature

TRAINING UNIT COMPLETION FORM

TRAINING TITLE  
UNIT

SIGNING AUTHORITY

U0026

Operate Mechanized Cable Bolter

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## OPERATE MECHANIZED CABLE BOLTER

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### U0026.0 OPERATE MECHANIZED CABLE BOLTER

#### GENERAL PERFORMANCE OBJECTIVE

Operate mechanized cable bolter, to drill holes, grout and install cable bolts, by identifying and responding to workplace hazards; inspecting and scaling workplace; performing pre-operational checks on cable bolter carrier; starting up cable bolter carrier; conducting operational checks on cable bolter carrier; operating cable bolter carrier; positioning cable bolter carrier; extending services; preparing back/walls for drilling; performing pre-operational checks on drill; drilling back/walls; tearing down and storing drill equipment; performing pre-operational checks on cabling and grouting materials and equipment; shutting down cable bolter carrier; installing cable bolts and breather tubes; installing grout; conducting operational checks on grouting equipment; shutting down and storing grouting equipment; and installing cables according to government legislation and company standards and manufacturer specifications.

*NOTE: To be trained, and accredited, in this module the prerequisite modules from Program #770010 are U0000, U0001, U0002, U0003b, U0004, U0011 and U0024. The other prerequisite modules, where applicable, are U0013, U0015, U0018, U0028, U0033, U0089 and U0090.*

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#### PERFORMANCE OBJECTIVES

Trainer's Name (Print)

Trainee's Name (Print)

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#### SKILLS

- 0026.01 Identify and respond to workplace hazards, including: ground conditions, ventilation, open holes above/ below, and housekeeping, by isolating area; and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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## OPERATE MECHANIZED CABLE BOLTER

### **U0026.0 OPERATE MECHANIZED CABLE BOLTER - cont'd**

- 0026.02 Inspect and scale workplace, by selecting scaling bar for the specific job based on type, size and condition; fastening and connecting hoses; washing down area; setting water flow to control dust; performing scaling procedures; checking ventilation flow; and taking corrective action and/or reporting according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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- 0026.03 Extend services, including: air, water, power, ventilation, blasting and communication lines, by bleeding air and water lines; flushing and installing headers; fastening, securing, hanging and supporting services; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufactures specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 0026.04 Perform pre-operational checks on cable bolter carrier, by testing power source; checking fluid levels; following refuelling and lubricating procedures; inspecting principle components, including: steps, guardrails and handrails, chassis and canopy/cab, engine/power source, power train, controls, drill boom, jacks, wheel chocks, trailing cable, communication, lighting and warning systems; visually inspecting fire extinguishers and fire suppression systems; checking pins and nozzles; inspecting tires and wheel assemblies; inspecting/testing braking systems; using 3 point contact while mounting and dismounting; locking out and/or tagging machine; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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## OPERATE MECHANIZED CABLE BOLTER

### **U0026.0 OPERATE MECHANIZED CABLE BOLTER - cont'd**

- 0026.05 Start up cable bolter carrier, by activating power source; using audible warning systems and signals; observing equipment operation, gauges and load limits; checking for clearances and activity in area; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 0026.06 Conduct operational checks on cable bolter carrier, by monitoring gauges and meters, including: oil and air pressure, lights, warning and communication systems, temperature, alternator output, transmission and torque pressure; listening for unusual noises in engine/power train; placing boom(s) in travel position; inspecting steering; testing brakes; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 0026.07 Operate cable bolter carrier, by ensuring clearances, and clear machine path; complying with speed limits, traffic signs and signals; testing brakes; selecting gears for ramps; posting signs or lights; watching for pedestrian traffic; maintaining road ways; ensuring required ventilation; noting direction of ventilation flow and position of ventilation/fire doors; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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## OPERATE MECHANIZED CABLE BOLTER

### **U0026.0 OPERATE MECHANIZED CABLE BOLTER - cont'd**

- 0026.08 Position cable bolter carrier, within the designated work area, by setting park brake; lowering stabilizer jacks; positioning wheel chocks; locking out and/or tagging; and repairing and /or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 0026.09 Prepare back/walls for drilling, by blowing/flushing lines; connecting air and water hoses; washing back/walls; scaling loose rock; cleaning and marking bootlegs, using non-sparking materials; applying procedures for handling misholes; following drill pattern; controlling drainage; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 0026.10 Perform pre-operational checks on drill, with controls in off position and air and water headers open, by inspecting drilling components, including: drill boom, boom cylinders, boom cable reels/spools, drill platform and console; inspecting slides and feed, power supply, whip checks, pins and hoses; draining air systems and compressors; inspecting operator drill platform, drill steel, drill steel centralizer, drill console, cable reel and trailing cable; filling lubricators; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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## OPERATE MECHANIZED CABLE BOLTER

### **U0026.0      OPERATE MECHANIZED CABLE BOLTER - cont'd**

- 0026.11      Drill back/walls, by collaring hole(s) and drilling to pre-determined depth and pattern; checking bootlegs; ensuring guard rails are in place; performing secondary scaling; monitoring general condition of drill, including: lubrication, hoses and controls; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 0026.12      Tear down and store drill equipment, by shutting off and bleeding air and water lines; disconnecting air and water hoses; shutting off power; performing post-operational checks; completing reports; storing/securing drilling equipment in designated/approved areas; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 0026.13      Perform pre-operational checks on cable and grouting materials and equipment, by determining number of cables to be installed, type, size and length; testing power source, including: ground fault system; checking fluid levels and grease points; determining type and amount of grout and additives required; inspecting grout mixer and pump components, including: hoses, fittings and valves, air and water lines, grout mixer and blades, grout pump, oil reservoirs, water tank and control valves; selecting tensioning devices, hand tools and equipment, including: scaling bars, anchor/centralizers, face plates, wedges, bolt cutters, grinders; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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## OPERATE MECHANIZED CABLE BOLTER

### **U0026.0 OPERATE MECHANIZED CABLE BOLTER - cont'd**

- 0026.14 Install cable bolts and breather tubes, by plugging break through holes; selecting and cleaning cables; connecting air and water hoses; connecting power source; pre-flushing pump and lines; using personal protective equipment; attaching anchors and breather tubes to cables; installing cables to required depth; installing collar plugs and grout hoses; reporting blocked holes; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 0026.15 Install grout, by mixing grout to required consistency, including: water to cement ratio; following procedures for handling materials; using personal protective equipment, including: gloves, oilers, goggles, face shields, and barrier cream; pumping grout at required rate; filling holes to required depth; reporting unfilled holes; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 0026.16 Conduct operational checks on grouting equipment, by monitoring gauges and meters, including: oil and air pressure, lights, warning and communication systems, temperature; monitoring cement/water ratio; monitoring condition of hole and pump operation; completing operator report; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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## OPERATE MECHANIZED CABLE BOLTER

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### U0026.0      OPERATE MECHANIZED CABLE BOLTER - cont'd

- 0026.17      Shut down and store grouting equipment, by flushing equipment and hoses; washing equipment; disconnecting services, including: air, hydraulics, electric and water; preparing for transport and storage; moving and storing in designated/approved area; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 0026.18      Install cable plates, strapping or tensioning cables, by allowing required cure time; applying predetermined tension pressures; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 0026.19      Shut-down cable bolter carrier, by bleeding lines; raising jacks, replacing wheel chocks in holders; disconnecting power cables; placing boom in travel position; parking in designated/approved area; performing post-operational checks; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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Employer's Name

Employer's Signature

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